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This paper represents an effort to explain the language development of the child within the analytic frame of overtly observable data and without recourse either to mathematical models or to postulating hypothetical underlying forms. From longitudinal studies of two-year old children conducted by the author as well as from similar data reported in the literature, it appears that the function of repetition in child language is twofold: (1) as a learning device for the retention of items newly acquired through imitation and (2) as a means of easing the process of conveying the message. Improvement of communication is the principle aim of the child's efforts to shape his language to the sociolinguistic pattern of others significant to him. Repetition's function of easing the strain of the message in its bare essentials only fulfills the same purpose that redundancy does in adult language. As a matter of fact, repetition ceases when the child's speech progresses to the point of employing functors as a part of a synthetic construction. (Author/DO)

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THE FUNCTION OF REPETITION IN CHILD LANGUAGE
as part of an integrated theory of developmental linguistics

Walburga von Raffler Engel
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paper presented at the Southeastern Conference on Linguistics, Florida State University, 1969.

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The following represents an effort to explain the language development of the child within the analytic frame of overtly observable data and without recourse either to mathematical models or to postulating hypothetical underlying forms.

It is axiomatic that language is species-specific. To my knowledge, no linguist has ever asserted the contrary. It is axiomatic that the child grows along a maturational curve. This has never been questioned either. It is also common knowledge that unless a child is exposed to human language, he does not learn to speak.

It is theorized that language develops for the purpose of communication. Indeed, when the child does not succeed in establishing a communicative relationship, his language development is impaired. Leaving aside the controversial problem of autistic children, the requirement of social interaction is quite clearly demonstrated by the delayed speech development of children in orphanages and from the impoverished speech forms of children in overcrowded or depersonalized homes. If communication were not a primary function of language, lack of sufficient communication

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would not so clearly affect its development. Research by Dr. H. David Hall, head of the oral surgery division at the Vanderbilt Medical School, has recently established the biological implications of functional activity upon the growth of immature tissues.

If he accepts the theory that language develops in function of communication, the researcher is obliged to seek a constant, from the baby's cry to the grammatically correct sentences of the school child. I never doubted that there was such a continuity ~~existing~~, but only now do I have a sense of a coherent and comprehensive system.

Whatever the cognitive structures of the infant, be they innate or acquired, it has been empirically demonstrated that the child acquires the language of his environment. Consequently, to determine the child's process of acquisition, one needs first a description of the language of his significant others. The description must be in terms of observable data, including such *stateable* relationships of "deep structure" in Hockett's sense of valence, but exclusive of underlying forms such as "deep structure" in Chomsky's interpretation. The reason for this is not only one of a positivist versus an idealist position. For, if we want to assay the psychic reality of hypothetical underlying forms, child language may very

well be one of our best testing grounds. To induce these forms at the outset removes the possibility of reducing them later from empirical evidence. The evidence is, of course, both the language of the environment (the input) and the gradually emerging speech of the child (the output).

Without delving into the question of how much is due to imitation and how much to forms of creativity, I stop to mention that Zazzo has demonstrated that an infant two-weeks old is capable of simple imitative non-speech performances with his tongue.

Natural language is extraordinarily complex, and our knowledge of how it is structured and how it functions, extremely limited. Until we have fully plumbed its mysteries - and I doubt it will happen in my time - it would be presumptous to insist on a unique solution to the analysis of human speech.

One of the possible approaches is quantification on levels of abstraction, in the sense Malmberg attributes to the term. On this base I shall try to quantize and show how each level of abstraction is eventually acquired by the child.

The first level of abstraction is intonation. Babies' cries consist of semantically distinct modulations.

Between his fourth and ninth month, the infant produces, besides cries, one or more carrier-sounds which are intonationally varied according to the need the infant wishes to convey. What we have is a small repertoire of phonological units which are purposively articulated, their shape depending on ease of articulation. This is the second level of abstraction, the syllable. The segmental shape of the syllable is not related to any specific language, but the intonation pattern, from its instinctive beginnings, becomes imitative of the language of the environment.

A third stage begins between the seventh and twelfth month, when we witness the production of imitative syllables. Normally, it is difficult to determine which is the first imitative syllable. In the case of my son, it turned out to be easy because(1) his imitation was phonologically rather successful and(2) the meaning of the word was clearly definable from the accompanying gesture. At seven months he was saying ča, for Italian ciao, "bye-bye", while waving his little hand. Incidentally, American children also frequently produce "bye-bye" as their first syllabic or tautosyllabic utterance in which the imitation is already

segmental, no longer simply suprasegmental. This fact points again to the communicative aspect of language, and to the innate urge to immitate which by the way characterizes all the learning processes of the child. More importantly, the "bye-bye" example points to the relevance of the frequency of exposure. This aspect of language acquisition has enjoyed relatively little attention in the literature. I mention it here only in passing as the subject is to be treated in a forthcoming paper of mine.

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To illustrate the first three stages in language acquisition posited above, I would like to cite observations made by a student of mine, Martha Sampsell, on her son David. The data were recorded by her notes and/or tapes; the methodology employed was strictly that of passive observation.

When he was six months old, David would say dado when he heard the telephone ring. It was spoken with the intonation contour of his mother's "hello". Dado, segmentally, too, was an imitation of "hello". The pronunciation was distinctly different from that of David's carrier-sound da-da.

One of David's babbling sounds was gigl. His father took a liking to that sound and, when he heard it, would go and play with the infant, all the while repeating David's babbling. The verbal aspect of the communicative relationship established was restricted to gigl. Eventually, David came to associate gigl with his father, and whenever he espied his father, he would revert to the signal gigl. Gigl and da-da are obviously holophrastic, whereas dado is a single word. For gigl and da-da, form precedes meaning. Dado, on the other hand, can be described either in terms of the synchronous appearance of form and meaning, or of a form associated with an occasion but without a message. The types of meaning are intrinsically different and in no way can dado be defined as a one-word sentence.

The gist of the matter is this: we are confronted with non-imitative holophrasis preceding an imitative simple word. David's development shows how difficult it is to date the first phoneme and establish any kind of universal sequence in the phonemic domain. Besides, it suggests the fruitlessness of any monolityic approach to language analysis.

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After the syllable, the child arrives at stage four, when he can produce two consecutive syllables that are neither tautosyllabic nor near-tautosyllabic. This is the stage of the phonological word. It is still an unanalyzed whole, and indivisible into morphemes. We cannot yet speak of phonemes, as the individual phonemes are in no consistent contrast within the total corpus of the child's verbal repertoire. Later, but within the same grammatical level, the child becomes aware of the mispronunciation of a single phoneme, and will attempt to correct it. He has by then reached stage five, the level of abstraction of the phoneme.

David's parents used to stretch out their right hand and say to David as well as to other children:"How big you are! That big." From ten months on, David would stretch out his hand in the same way and say, keeping the intonational contour of the whole model statement: <u>How big! Big.</u> This was imitative, but in no way as automatic a response as <u>dado</u>, "hello". David would utter <u>How big! Big.</u> without any overt stimulus. But I cannot establish whether it contains any message. The structure follows the well-known pattern of the telegraphic style. The literature on the subject is extensive and it is not my intention here to discuss the grammar of the telegraphic style or the problem of optimizing.

In any case, the sixth stage is reached when the child can manipulate words as parts of a larger unit. At this point, he no longer forms sentences only on the level of abstraction of intonation (the holophrastic stage) but also on the level of abstraction of segmental arrangement. Stage six can therefore be called the syntactic stage. From the cognitive standpoint, our sequence of stages would support the belief that semantics precedes syntax. Really, I do not see that the transformationalist claim to the contrary has yet found proof in solid evidence.

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During the telegraphic stage described, the child had isolated the linguistic features which carry the essential elements of the message. But information theory has demonstrated that redundancy is vital to effective communication. This dimension is added by the child in his seventh stage. McNeill's assertion that the newborn comes equipped with innate ideas of syntactic rules does not stand up under close scrutiny. I have in mind chiefly the most recent work of Jerome Bruner, in the Eighth Annual Report of the Harvard Center for Cognitive Studies, just off the press. As I had occasion to write in 1964, the child is born with the urge to socialize and, after the purely sympathetic forms of

communication, he acquired the full gamut of verbal skills. As in the gradual acquisition of other human skills, at the outset he develops language mastery by optimizing. Repetition substitutes for redundancy.

To ease the strain, for the listener and for himself, of the message conveyed in its bare essentials the child will resort either to repeating some of the words in the two- or three-word sentence, or to repeating the entire sentence, in a way that is somewhat reminiscent of his earlier tautosyllabism. The literature offers many cases of this sort. I will cite a few examples from the speech development of Michael Rohland whom we investigated during his third year of life. At two years and five months, we recorded utterances such as the following:

Orange, orange, Mommy. Orange.

Write, write, write Daddy.

Daddy, write letter Mommy. Write letter Mommy.

Paper, paper, paper. Paper for me.

At two years and eight months, he had arrived at the eighth stage of language development. He was capable of using functors, and no longer was he obliged to rely on repetition as a primitive form of redundancy:

This is like Dandy.

That's a rooster.

He grows up..... He's a fish.

What's he doing upstairs?

At two years and eleven months, we asked Michael to repeat a series of sentences. From his answers it becomes apparent that he would either use functors or repetition, not both. The original order of elicitation is left untouched.

Model: I'll eat a cookie.
Michael: Cookie, cookie.

Model: I am your mother.
Michael: I'm your mother.

Model: Who does the singing here?
Michael: Who singing here?

Model: A bird is in in a cage cage.
Michael: Cage.

Model: Ball ball fell.
Michael: Ball ball fell.

Model: This is a very beautiful book.
Michael: Book, book.

Model: This refrigerator refrigerator.
Michael: Refrigerator refrigerator.

Model: This is Mommy's purse.
Michael: This is Mommy's purse.

Model: The chair chair is red.
Michael: The chair is red.

Model: The bird flies.
Michael: The bird flies.

Model: There is one table table.
Michael: One table table.

To suggest the possibility of systematizing language acquisition according to levels of abstraction has been the purpose of this paper. Certainly, it offers no final answer to the vexing problem of first-language acquisition. I would be happy if it did no more than add a useful new approach to the analysis of language, the most complex facet of human behavior. Two things, however, ~~of which~~ I feel fairly confident of: One is the communicative function of language. From this, my second conclusion would follow as a natural consequence: there is a necessary thread of continuity from prelanguage to language.

Abstract

THE FUNCTION OF REPETITION IN CHILD LANGUAGE

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(20 minutes)

From longitudinal studies of two-year old children conducted by the author as well as from similar data reported in the literature it appears that the function of repetition in child language is twofold:

1) As a learning device for the retention of items newly acquired through imitation.

2) As a means of easing the process of conveying the message. Improvement of communication is the principle aim of the child's efforts to shape his language to the socio-linguistic pattern of his significant others. Theories of first-language acquisition based primarily on innate notions will implicitly be refuted.

During the telegraphic stage the child uses repetition as a means of:

a) Committing information to memory

b) Holding the lestener's attention

c) Easing the strain of the message in its bare essentials only.

This particular function (c) of repetition fulfills the same purpose as redundancy does in adult language. As a matter of fact, repetition ceases when the child's speech progresses to the point of employing functors as part of a syntactic construction.